



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard
Atlanta, Georgia 30345

In Reply Refer To:
FWS/R4/DH NRDAR

May 5, 2015

Memorandum

To: Field Supervisor, Jackson Ecological Services Office, Mississippi

From: Deputy Deepwater Horizon, Department of the Interior Natural Resource Damage Assessment and Restoration (NRDAR), Case Manager *Debra L. McClellan*

Subject: Informal Consultation and Conference Request for the Proposed Bike and Pedestrian Use Enhancements at Davis Bayou, Mississippi District, Gulf Islands National Seashore Project

As you are no doubt aware, on or about April 20, 2010, the mobile offshore drilling unit *Deepwater Horizon* experienced an explosion, leading to a fire and its subsequent sinking in the Gulf of Mexico (the Gulf). These events resulted in the discharge of millions of barrels of oil into the Gulf over a period of 87 days. In addition, various response actions were undertaken in an attempt to minimize impacts from spilled oil. These events are hereafter collectively referred to as the Oil Spill.

The Department of the Interior (DOI), acting through the U.S. Fish and Wildlife Service (the Service) and other Bureaus, is a designated natural resource trustee agency authorized by the Oil Pollution Act of 1990 (OPA) and other applicable federal laws to assess and assert a natural resource damages claim for this Oil Spill. DOI is only one of several Trustees, including an agency in the State of Mississippi, so authorized. Consistent with their federal and state authorities, the Trustees are investigating the resource injuries and losses that occurred as a result of the Oil Spill and have initiated restoration planning to identify the actions that will be needed or appropriate to restore injured natural resources to make the public whole for injuries and losses that occurred. This process is known as a Natural Resource Damage Assessment (NRDA).

On April 20, 2011, DOI, National Oceanic and Atmospheric Administration, and the Trustees for the five Gulf states affected by the Oil Spill entered into an agreement with BP, a responsible party for the Oil Spill, under which BP agreed to provide \$1 billion for early restoration projects in the Gulf to address injuries to natural resources caused by the Oil Spill. The subject project is being evaluated by the Trustees as a potential early restoration project. The early restoration project will be proposed in a draft early restoration plan that will be released for public comment and review. If the Trustees select the project after publication of the plan and consideration of public comment and a stipulated agreement is reached with BP, the early restoration project will be implemented by the National Park Service (NPS). DOI, acting through the NPS, will be the lead Trustee for the project, if it is selected and implemented.

The above facts lead us to the conclusion that consultation and conference under Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), is required for the proposed project and we wish to engage in such consultation. Accordingly, we have reviewed the proposed Bike and Pedestrian Use Enhancements at Davis Bayou, Mississippi District, Gulf Islands National Seashore Project, for potential impacts to listed, candidate, and proposed species and designated and proposed critical habitats in accordance with Section 7 of the ESA. We determined the proposed project will have no effect to any species or critical habitat considered. We have provided our analysis in the attached ESA Biological Evaluation Form for *Deepwater Horizon* Oil Spill Restoration (BE). This form will also be used to initiate consultation with National Marine Fisheries Service for species where ESA regulatory authority is shared (Gulf sturgeon, Gulf sturgeon critical habitat and three species of sea turtles (loggerhead, green, and Kemp's ridley) using in-water habitats) and in regards to Marine Mammal Protection Act (MMPA) of 1972, as amended (16 U.S.C. 1461 *et seq.*).

Within the BE, we have also reviewed the proposed project for impacts to bald eagles and migratory birds in accordance with the Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 U.S.C. 668-668c) and the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712), respectively.

We request your review of and concurrence with the attached BE describing the proposed project, potential effects, conservation measures and justifications for our determinations. To facilitate your response, should you concur with our determinations, we have attached a template response letter. If you have questions or concerns regarding this request for consultation, please contact Ashley Mills, Fish and Wildlife Biologist, at 812-756-2712 or ashley_mills@fws.gov.

Attachments (2)

Endangered Species Act Biological Evaluation Form

Bike and Pedestrian Use Enhancements at Davis Bayou, Mississippi District, Gulf Islands National Seashore
Fish and Wildlife Service & National Marine Fisheries Service

This form will be used to provide information for the initiation of informal Section 7 consultations under the Endangered Species Act, if required or to document a No Effect determination. In addition, information provided in this form may be used to inform other regulatory compliance processes such as Essential Fish Habitat (EFH), Marine Mammal Protection Act (MMPA), Section 106 of the National Historic Preservation Act (NHPA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA). Further information may be required beyond what is captured in this form. Note: if you need additional space for writing, please attach pages as needed.

A. Project Identification

<i>Lead Agency</i>			
U.S. Fish and Wildlife Service/National Marine Fisheries Service		<i>Phone</i>	<i>Email</i>
<i>Agency Contact Person</i>		812-756-2712 and	Ashley_Buchanan@fws.gov and
Ashley Mills and Laurel Jennings		206-526-4601	Laurel.Jennings@noaa.gov
I.	<i>Applicant Agency or Business Name</i>		
	National Park Service		
II.	<i>Applicant Contact Person</i>	III. <i>Phone</i>	<i>Email</i>
	Jolene Williams	(228) 230-4132	Jolene_Williams@nps.gov
IV.	<i>Project Name and ID# (Official name of project and ID number assigned by action agency)</i>		
	Bike and Pedestrian Use Enhancements at Davis Bayou, Mississippi District, Gulf Islands National Seashore		
V.	<i>Project Type</i>		
	General Construction/Building		
VI.	<i>NMFS Office (Choose appropriate office based on project location)</i>		
	NMFS Southeast Regional Office		
VII.	<i>FWS Office (Choose appropriate office based on project location)</i>		
	Mississippi Ecological Services Field Office (Jackson)		

B. Project Location

I.	<i>Physical Address of Project Site (If applicable)</i>
	Park Road and Robert McGhee Road Gulf Islands National Seashore - Davis Bayou Unit 3500 Park Road, Ocean Springs, MS 39564
II.	<i>State & County/Parish of Project Site</i>
	Jackson County, Mississippi
III.	<i>Latitude & Longitude for Project Site (Decimal degrees and datum [e.g., 27.71622°N, 80.25174°W NAD83] [online conversion: http://transition.fcc.gov/mb/audio/bickel/DDDMMS-decimal.html])</i>
	30.398619°N -88.778163°W WGS 84 The Project site (Robert McGhee Road) crosses Davis Bayou at 30.937772°N -88.792017°W. Park Road crosses East Davis Bayou at 30.393386°N -88.788145°W.
IV.	<i>Township, range and section of the project area</i>
	S33 T7S R8W S34 T7S R8W

C. Description of Action Area

1. Attach a separate map delineating where the action will occur. 2. Describe ALL areas that may be affected directly or indirectly by the Federal action and not merely the immediate project site involved in the action, or just where species or critical habitat may be present. Provide a description of the existing environmental conditions and characteristics (e.g., topography, vegetation type, soil type, substrate type, water quality, water depth, tidal/riverine/estuarine, hydrology and drainage patterns, current flow and direction), and land uses (e.g., public, residential, commercial, industrial, agricultural). 3. If habitat for species is present in the action area, provide a general description of the current state of the habitat. 4. Identify any management or other activities already occurring in the area. 5. Detailed map of the area of potential effect for ground disturbing activities if it is different from the project area

The project is located in the Davis Bayou Unit of Gulf Islands National Seashore (GUIS), Ocean Springs, Jackson County, Mississippi, between 30.398791°N -88.778168°W (north end of Park Road) and 30.390940°N -88.790295°W (south end of Park Road), and 30.397879°N -88.795034°W (west end of Robert McGhee Road), WGS 84. The project footprint includes Park Road (2.1 miles), Robert McGhee Road (0.82 mile) and the adjacent Davis Bayou Area. Robert McGhee Road crosses Davis Bayou at 30.937772°N -88.792017°W. Park Road crosses East Davis Bayou at 30.393386°N -88.788145°W.

The Park Road bridge work will occur above the Mean High Water Line (MHWL), which is approximately 3 feet above the MHWL.

GUIS encompasses barrier islands and coastal mainland in Mississippi and Florida and consists of 12 separate areas stretching along 160 miles from Cat Island in Mississippi to the eastern end of Santa Rosa Island in Florida. The Davis Bayou Area of Gulf Islands National Seashore is the only mainland unit in Mississippi (see Figures 1 and 2). The Davis Bayou Area is approximately 470 acres (including water body acreage). Three marshy bayous, including Halstead, Stark (crossed by Robert McGhee Road), and East Stark (crossed by Park Road) Bayous, flow through the unit and discharge into Davis Bayou to the south and eventually to the Mississippi Sound. Elevations in the unit range from sea level to over 20 feet; vegetative cover varies from tidal herbaceous plants to upland hardwoods. Seven major vegetated habitat types have been identified as occurring within Davis Bayou. The southern mixed hardwood forest sites occupy the high sandy ridges located throughout the southern portion of the unit. Interspersed between these ridges are bayhead swamp wetlands that subsequently flow into tidal marshes that are part of the Davis Bayou watershed. Where southern mixed hardwood forest sites lie adjacent to tidal marshes, a transitional wet forest occurs on the sloping areas between them where soils are hydric. The maritime forest habitat type lies directly adjacent to Davis Bayou. Wet pine flatwood and wet pine savanna habitats occupy the relatively flat topography of the northern portion of the unit, largely on either side of Park Road. Bayhead swamps are interspersed within this area as well.

Sandy and loamy marine deposits have given rise to similar texture soils. On the sand ridges where the water table is deep and soils are leached, plant nutrients and organic matter are carried rapidly downward through the sandy soils. The topography immediately adjacent to Park Road associated with the bridge approaches north of VFW Road is steep with a 20% grade over a distance of approximately 70 feet.

A large portion of the Davis Bayou Area of Gulf Islands National Seashore is within the 100-year floodplain, as shown on Federal Emergency Management Agency Flood Insurance Rate Map numbers 28059C0292G, 28059C0293G, and 28059C0294G (see Figure labeled 7-5). The Federal Emergency Management Agency defines geographic areas as flood zones according to varying levels of flood risk. Each zone reflects the severity or type of flooding in the area. The first zone, labeled "AE" on the Federal Emergency Management Agency maps, is within the 100-year floodplain and ranges in elevation from 16-18 feet National Geodetic Vertical Datum of 1988 (NAV88). This zone encompasses mostly the southern portion of the unit. The major source of flooding in this area would be flooding from overwash in the bayous. The second zone is on the Federal Emergency Management Agency mapping that is within the project area is zone "X (Other Flooded Areas)" which are designated for areas of 0.2% annual chance flood or areas of 1% annual chance flood with average depths of less than 1 foot or less of drainage areas less than 1 square mile. The third zone is also zone "X (Other Areas)" which are areas determined to be outside the 0.2% annual chance floodplain and less likely to flood than the 100-year floodplain or the Other Flooded Areas. Zone "X (Other Areas)" occur in the northern portion of the study area.

The action area is located approximately 1,000 feet east of Piping Plover Critical Wintering Habitat (Figure 4), Mississippi Unit 11 (66 FR 36038, July 10, 2001); and approximately 800 feet northeast of Gulf sturgeon Critical Habitat (Figure 5), Unit 8 Mississippi Sound (68 FR 13370, March 19, 2003). The Gulf sturgeon Critical Habitat lies approximately 1200 feet west of the point where Park Road crosses East Davis Bayou.

a. **Waterbody**
(If applicable. Name the body of water, including wetlands (freshwater or estuarine), on which the project is located. If the location is in a river or estuary, please approximate the navigable distance from the project location to the marine environment.)

Water bodies along Park Road and Robert McGhee Road consist of three marshy bayous, including Halstead, Stark (crossed by Robert McGhee Road), and East Stark (crossed by Park Road) and associated estuarine emergent wetlands. Bayhead swamp wetlands are also present along the roads and subsequently flow into tidal marshes that are part of the Davis Bayou watershed. Where southern mixed hardwood forest sites lie adjacent to tidal marshes, a transitional wet forest (with hydric soils) occurs between them. Wet pine flatwood and wet pine savanna habitats also occur along the project roads (Figure 3).

b. **Existing Structures**
(If applicable. Describe the current and historical structures found in the project area (e.g., buildings, parking lots, docks, seawalls, groynes, jetties, marina.)). If known, please provide the years of construction.

Consultation with the Mississippi State Historic Preservation Officer (SHPO) is ongoing to make formal eligibility determinations on 4 known, unevaluated archaeological sites within the action area. The action area contains no modern or historic structures. Existing structures near, but not within, the action area include 2 historic structures (CCC-era cabins) and recent non-historic structures including 5 picnic pavilions, the visitor center, warehouse buildings, and employee rental houses.

c. **Seagrasses & Other Marine Vegetation**
(If applicable. Describe seagrasses found in project area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the seagrasses in the project area.)

Wetlands in the action area are nearly dry at low tide. No seagrasses or other marine vegetation occur within the action area.

d. **Mangroves**
(If applicable. Describe the mangroves found in project area. Indicate the species found (red, black, white), the species area of coverage in square footage and linear footage along project shoreline. Attach a separate map showing the location of the mangroves in the project area.)

not applicable

e. **Corals**
(If applicable. Describe the corals found in project area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the corals in the project area.)

not applicable

f. **Uplands**
(If applicable. Describe the current terrestrial habitat in which the project is located (e.g. pasture, forest, meadows, beach and dune habitats, etc.).

The southern mixed hardwood forest sites occupy the high sandy ridges located throughout the southern portion of the Davis Bayou Area. Where southern mixed hardwood forest sites lie adjacent to tidal marshes, a transitional wet forest (with hydric soils) occurs on the sloping areas between them. The maritime forest habitat type lies directly adjacent to Davis Bayou. Wet pine flatwood and wet pine savanna habitats occupy the relatively flat topography of the northern portion of the unit, largely on either side of Park Road.

D. Project Description

I. Construction Schedule (What is the anticipated schedule for major phases of work? Include duration of in-water work.)

Construction of the proposed action is currently scheduled to begin in late 2015 and continue into 2016. A construction design and schedule have not yet been completed for the proposed action.

II. Describe the Proposed Action: 1. What is the purpose and need of the proposed action? 2. How do you plan to accomplish it? Describe in detail the construction equipment and methods** needed; permanent vs. temporary impacts; duration of temporary impacts; dust, erosion, and sedimentation controls; restoration areas; if the project is growth-inducing or facilitates growth; whether the project is part of a larger project or plan; and what permits will need to be obtained. 3. Attach a separate map showing project footprint, avoidance areas, construction accesses, staging/laydown areas. **If construction involves overwater structures, pilings and sheetpiles, boat slips, boat ramps, shoreline armoring, dredging, blasting, or artificial reefs, list the method here, but complete the next section(s) in detail.

The proposed Bike and Pedestrian Use Enhancements Project at Davis Bayou, Mississippi District, Gulf Islands National Seashore involves reducing the speed of automobiles and reducing the potential for interactions between pedestrians/bicyclists and motor vehicles on Park Road and Robert McGhee Road in the Davis Bayou Area of Gulf Islands National Seashore.

For the proposed action, the road surface of Park Road (2.17 miles) and Robert McGhee Road (0.82 mile) would be widened to accommodate multi-use lanes on one or both sides of the road (see Figure 2). The new road configuration would widen the existing roadway to a 32-ft to 36-ft paved surface to include two 11-ft motor vehicle lanes flanked by a 5-ft multi-use lane, and a 4-ft non-paved shoulder. A retaining wall could also be constructed in areas where the road is elevated higher than the surrounding land forms. In addition, two 10-ft diameter traffic calming medians would be installed along the first mile of Park Road, and formal entrance park signs may be installed at the VFW Road/Knapp Road intersection, and relocated at the Park Road/US Route 90 intersection. Replacement boardwalks will be constructed over portions of Stark Bayou on Robert McGhee Road, using cantilevers and pilings, with clearance for under-boardwalk wildlife crossings, or replacing the boardwalk with fill for the multiple use lane. Approximately 8.5 acres of wetland, including 6.1 acres of forested wetland (orange-colored wetlands shown in Figure 3), 1.9 acre of tidal marsh (blue wetland areas shown in attached figure 3), 0.4 acre of palustrine emergent, and 0.1 acre of palustrine scrub-shrub wetlands would be filled under the proposed action.

Project construction activities could include:

- excavation, grading, fill and asphalt overlay to widen the existing 22-ft paved surface to a 32-ft to 36-ft paved surface with additional 4 ft non-paved shoulders, with appropriate striping;
- ground disturbance beyond the existing asphalt and 10 - 14 additional feet of asphalt proposed, 8 feet of non-paved shoulders, plus 5 feet from the toe of slopes for construction and heavy equipment maneuvering, thus widening the existing road corridors;
- placing and compacting fill adjacent to roadway including wetland areas;
- installation of two traffic-calming medians (e.g., 10-ft wide ellipses) within the first mile of Park Road, similar to the entrance median;
- installation of retaining walls along the road in areas where the road is elevated higher than the surrounding land forms;
- installation of new or the extension of several existing culverts;
- removal of woody vegetation and mature trees;
- planting of native grasses on non-paved shoulders and native grasses/trees on bare slopes or in new medians;
- construction of replacement boardwalks over portions of Stark Bayou, using cantilevers and pilings, or fill and culverts, with clearance for under-boardwalk wildlife crossings (see photos of boardwalk areas attached to this BEF);
- replacement of existing culvert bridge on Park Road over east Stark Bayou with a larger bottomless box culvert or small bridge, with restoration of water flow of wetlands on both sides of the road at culvert location, and possibly eliminating the existing cantilevered boardwalk on the west side of the road;
- forested wetlands mitigation activities (orange-colored wetlands shown in Figure 3) as required by NPS Director's Order 77-1 and section 404 of CWA, possibly consisting of prescribed burns (National Park Service. 2009. Fire Management Plan for Gulf Islands National Seashore. October, 2009);
- avoidance of most existing utilities but possible relocation of some existing utilities, where needed, (e.g., light poles, cable and phone lines, water hydrants, buried electrical lines and transformers); relocation/replacement of road signs and guardrails; and installation of an automatic gate at VFW Road.

The in-water portion of this project is currently being coordinated with the USACE pursuant to the Clean Water Act Section 404 and Rivers and Harbors Act. Gulf Islands National Seashore staff has prepared two "Statements of Findings" for any adverse impacts on wetlands as required by two NPS Director's Orders: D.O.77-1 AND D.O.77-2, both flowing from EO11990 "Protection of Wetlands" and EO11988 "Floodplain Management", respectively. Wetlands are shown in Figure 3. Water resources mitigation measures that would be taken include:

- Identification of specific provisions in construction contract(s) to prevent stormwater pollution during construction activities, in accordance with the National Pollutant Discharge Elimination System permit program of the Clean Water Act and all other federal regulations, and in accordance with the storm water pollution prevention plan to be prepared for this project.
- Planned and maintained buffers between areas of soil disturbance and wetlands or waterways.
- Use of soil erosion best management practices such as sediment traps, erosion check screen filters, and hydro mulch to prevent the entry of sediment into waterways.
- Prompt removal and proper disposal of any hazardous waste that is generated in the project area.
- Inspection of equipment for leaks of oil, fuels, or hydraulic fluids before and during use to prevent soil and water contamination.
- Actions to minimize effects on site hydrology and fluvial processes, including flow, circulation, water level fluctuations, and sediment transport. Take care to avoid any rutting caused by vehicles or equipment.
- Employ measures to prevent or control spills of fuels, lubricants, or other contaminants from entering wetland areas. Ensure the action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements.
- Maintenance of appropriate erosion and siltation controls during construction.
- Proper maintenance of fill material to avoid adverse impacts on aquatic environments or public safety.

In addition, USFWS Bald Eagle Management Guidelines and Conservation Measures would be followed during implementation of the proposed action. The release of sediments during construction would be controlled using best management practices and mitigation to protect soil resources, prevent the transport of sediment into waterways, confine impacts to construction sites, and to minimize the magnitude of the impacts on downstream water quality. Further, revegetation of disturbed sites would be started as soon as practical after work in an area was completed. Because of the proven effectiveness of best management practices, discharge of sediment to waterways should have negligible effects to aquatic habitat quality.

III. *Specific In-Water Construction Methods (Provide a detailed account of construction methods. It is important to include step-by-step descriptions of how demolition or removal of structures is conducted and if any debris will be moved and how. Describe how construction will be implemented, what type and size of materials will be used and if machines will be used, manual labor, or both. Indicated if work will be done from upland, barge, or both.)*

a. *Overwater Structures (Place your answers to the following questions in the box below.)*

- Is the proposed use of this structure for a docking facility or an observation platform?*
- If no, is this a fishing pier? Public or Private? How many people are expected to fish per day? How do you plan to address hook and line captures?*
- Use of "Dock Construction Guidelines"? <http://sero.nmfs.noaa.gov/pr/Endangered%20species/Section%207/DockGuidelines.pdf>*
- Type of decking: Grated – 43% open space; Wooden planks or composite planks – proposed spacing?*
- Height above Mean High Water (MHW) elevation?*
- Directional orientation of main axis of dock?*
- Overwater area (sqft)?*
- Use of "Sea Turtle and Smalltooth Sawfish Construction Conditions, March 2006"? <http://sero.nmfs.noaa.gov/pr/Endangered%20species/Sea%20Turtle%20and%20Smalltooth%20Sawfish%20Construction%20Conditions%203-23-06.pdf>*

Project construction activities may include construction of replacement boardwalks over portions of Stark Bayou, using cantilevers and pilings, or fill and culverts, with clearance for under-boardwalk wildlife crossings; replacement of the existing culvert bridge on Park Road over east Stark Bayou with a larger bottomless box culvert or small bridge, with restoration of water flow of wetlands on both sides of the road at culvert location, and possible elimination of the existing cantilevered pedestrian/bike boardwalk on the west side of the road.

Design for this project has not yet begun.

i. no; ii. no; iii. n/a; iv. unknown; v. unknown; vi. n/a; vii. unknown; viii. n/a

b. *Pilings & Sheetpiles (What type of material is the piling or sheetpiles? What size and how many will be used? Method used to install: impact hammer, vibratory hammer, jetting, etc.?)*

Currently, a construction design and schedule have not been completed for the proposed action.

c. *Boat Slips (Describe the number and size of slips and if the number of new slips changes from what is currently available at the project. Indicate how many are wet slips and how many are dry slips. Estimate the shadow effect of the boats - the area (sqft) beneath the boats that will be shaded.)*

not applicable

d. *Boat Ramp (Describe the number and size of boat ramps, the number of vessels that can be moored at the site (e.g., staging area) and if this is a public or private ramp. Indicate the boat trailer parking lot capacity, and if this number changes from what is currently available at the project.)*

not applicable

- e. *Shoreline Armoring (This includes all manner of shoreline armoring (e.g., riprap, seawalls, jetties, groins, breakwaters, etc.). Provide specific information on material and construction methodology used to install the shoreline armoring materials. Include linear footage and square footage. Attach a separate map showing the location of the shoreline armoring in the project area.)*

not applicable

- f. *Dredging or digging (Provide details about dredge type (hopper, cutterhead, clamshell, etc.), maximum depth of dredging, area (ft²) to be dredged, volume of material (yd³) to be produced, grain size of material, sediment testing for contamination, spoil disposition plans, and hydrodynamic description (average current speed/direction)).*

Digging/ground disturbance that would occur for the project would include:

- excavating, grading, filling, and overlaying asphalt to widen the existing paved surface from 22-ft up to 36-ft paved surface with additional 4-ft non-paved shoulders, plus 5 feet from the toe of slopes for construction and heavy equipment maneuvering;
- constructing replacement boardwalks over portions of Stark Bayou on Robert McGhee Road, using cantilevers and pilings, with clearance for under-boardwalk wildlife crossings, or replacing the boardwalk with fill for the multiple use lane.
- use of track hoes, back hoes, graders, dump trucks, compactors, asphalt pavers, and road striping equipment.

- g. *Blasting (Projects that use blasting might not qualify as "minor projects," and a Biological Assessment (BA) may need to be prepared for the project. Arrange a technical consultation meeting with NMFS Protected Resources Division to determine if a BA is necessary. Please include explosive weights and blasting plan.)*

not applicable

- h. *Artificial Reefs (Provide a detailed account of the artificial reef site selection and reef establishment decisions (i.e., management and siting considerations, stakeholder considerations, environmental considerations), deployment schedule, materials used, deployment methods, as well as final depth profile and overhead clearance for vessel traffic. For additional information and detailed guidance on artificial reefs, please refer to the artificial reef program websites for the particular state the project will occur in.*

not applicable

E. Species & Critical Habitat

1. List all species, critical habitat, proposed species and proposed critical habitat that may be found in the action area.
2. Attach a separate map identifying species/critical habitat locations within the action area.

For information on species and critical habitat under FWS jurisdiction, visit <http://www.fws.gov/endangered/species/>.

Under NMFS jurisdiction,

visit: http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Documents/aulf_of_mexico.pdf.

SPECIES and/or CRITICAL HABITAT (CH)	STATUS	CH UNIT
See Appendix A for list of potentially affected species/effect determination	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	
	Select One	

F. Effects of the Proposed Project

- I. Explain the potential beneficial and adverse effects to each species listed above (Describe what, when, and how the species will be impacted and the likely response to the impact. Be sure to include direct, indirect, interdependent, interrelated, connected actions, and cumulative impacts. Where possible, quantify effects. If species are present (or potentially present) and will not be adversely affected describe your rationale. If species are unlikely to be present in the general area or action area, explain why. This justification provides documentation for your administrative record, avoids the need for additional correspondence regarding the species, and helps expedite review.)

Piping Plover, Mississippi Sandhill Crane, Green Sea Turtle, Louisiana Black Bear, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle, Red Knot, Gulf sturgeon, Louisiana Quillwort, Dusky Gopher Frog, Alabama Red-bellied Turtle, Pearl Darter, Yellow-blotched Map Turtle, Black Pine Snake, Gopher Tortoise, Red-cockaded Woodpecker, West Indian Manatee - Although habitat for these species is known to occur in the vicinity of the Davis Bayou Area according to the USFWS Information, Planning, and Conservation System (IPAC), no habitat exists for these species in the action area according to park biologists. Surveys have shown that piping plover and Mississippi sandhill crane do not use the action area. Presence of these species would be accidental visitors only. The wetland areas that would be affected by the project are over 400 yards away from Gulf sturgeon federally designated critical habitat. Surveys have shown that Louisiana quillwort and red-cockaded woodpeckers are not found at the Davis Bayou Unit. Therefore, the project would have no effect on these species.

Dusky gopher frog, gopher tortoise and black pine snake prefer dry areas where sandy, well-drained soils persist. Surveys have shown these species are not found in the action area and the proposed action would have no effect on these species.

Because the wetland areas within the proposed action area in the Davis Bayou Area are nearly dry at low tide, habitat is not suitable for species that require deeper estuarine conditions, such as sea turtles, Gulf sturgeon, pearl darter, yellow-blotched map turtle, and West Indian Manatee. Therefore, the proposed project would have no effect on these species. In addition, the IPAC did not identify other sea turtles, including the hawksbill and loggerhead, as occurring within the action area. In addition, water flow is too slow and substrate is too muddy for these species in the action area. Conservation measures will be in place to prevent water quality impacts to the action area. Therefore, the proposed project would have no effect on these species.

Black bears probably lived throughout Mississippi in the past. Today, however, they appear to be restricted to the bottomlands along the Mississippi, lower Pearl, and Pascagoula Rivers. Occasionally an individual is found apparently wandering in other parts of the state (Mississippi Museum of Natural Science, 2001. "Endangered Species of Mississippi." Mississippi Department of Wildlife, Fisheries, and Parks, Museum of Natural Science, Jackson, MS). The Davis Bayou unit is a 1,410-acre tract of forest and wetland habitat surrounded by urban developed land, which is not suitable habitat for the black bear. In addition, the small size of the action area in comparison to the large homerange of this species would have no effect on this species. Therefore the proposed action would have no effect on the Louisiana black bear

Multi-use travel lane construction activities may result in indirect impacts to aquatic habitat due to erosion. The release of sediments during construction would be controlled using best management practices and mitigation to protect soil resources, prevent the transport of sediment into waterways, confine impacts to construction sites, and minimize the magnitude of the impacts on

- II. Explain the potential beneficial and adverse effects to critical habitat listed above (Describe what, when, and how the critical habitat will be impacted and the likely response to the impact. Be sure to include direct, indirect, interdependent, interrelated, connected actions, and cumulative impacts. Where possible, quantify effects (e.g. acres of habitat, miles of habitat). Describe your rationale if designated or proposed critical habitats are present and will not be adversely affected.

Piping Plover and Gulf sturgeon Critical Habitat (CH) - The action area is located approximately 1,000 feet east of Piping Plover Critical Wintering Habitat (Figure 4), Mississippi Unit 11 (66 FR 36038, July 10, 2001) and approximately 800 northeast of Gulf sturgeon Critical Habitat (Figure 5), Unit 8 Mississippi Sound (68 FR 13370, March 19, 2003). Therefore, the action area does not include piping plover or Gulf sturgeon critical habitat and the proposed action would have no effect on piping plover or Gulf sturgeon critical habitat. The release of sediments during construction would be controlled using best management practices and mitigation to protect soil resources, prevent the transport of sediment into waterways, confine impacts to the construction sites, and to minimize the magnitude of the impacts on downstream water quality. Further, revegetation of disturbed sites would be started using native plants as soon as practical after work in an area was completed. Because of the proven effectiveness of best management practices, discharge of sediment to waterways would not be expected to affect aquatic habitat quality in Davis Bayou and the Mississippi Sound.

The wetland areas affected by the project are over 1200 feet from federally designated Gulf sturgeon critical habitat (See Figure 5). Robert McGhee Road crosses Davis Bayou at 30.937772°N -88.792017°W. Park Road crosses East Davis Bayou at 30.393386°N -88.788145°W.

The project bridge work will occur above the Mean High Water Line (MHWL), the Robert McGhee Road and Park Road bridge locations are approximately 3 feet above the MHWL. Therefore, there is no direct runoff into Gulf sturgeon Critical Habitat, and this work will have no effect on Gulf sturgeon critical habitat.

G. Actions to Reduce Adverse Effects

<p>I.</p>	<p><i>Explain the actions to reduce adverse effects to each species listed above (For each species for which impacts were identified, describe any conservation measures (e.g. BMPs) that will be implemented to avoid or minimize the impacts. Conservation measures are designed to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation measures are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinstate this consultation.)</i></p> <p>The following mitigation measures would be followed to avoid adverse indirect impacts to listed aquatic species that may reside downstream of the project area, including the Gulf sturgeon, West Indian manatee, and sea turtles.</p> <ul style="list-style-type: none"> • Specific provisions would be identified in construction contract(s) to prevent storm water pollution during construction activities, in accordance with the National Pollutant Discharge Elimination System permit program of the Clean Water Act and all other federal regulations, and in accordance with the storm water pollution prevention plan to be prepared for this project. • Buffers between areas of soil disturbance and wetlands or waterways would be planned and maintained. • Soil erosion best management practices such as sediment traps, erosion check screen filters, and hydro mulch to prevent the entry of sediment into waterways would be used. • Any hazardous waste that is generated in the project area would be promptly removed and properly disposed of. • Equipment would be inspected for leaks of oil, fuels, or hydraulic fluids before and during use to prevent soil and water contamination. Contractors would be required to implement a plan to promptly clean up any leaks or spills from equipment, such as hydraulic fluid, oil, fuel, or antifreeze. • Onsite fueling and maintenance would be minimized. If these activities could not be avoided, fuels and other fluids would be stored in a restricted/designated area, and fueling and maintenance would be performed in designated areas that are bermed and lined to contain spills. Provisions for the containment of spills and the removal and safe disposal of contaminated materials, including soil, would be required. • Actions would be taken to minimize effects on site hydrology and fluvial processes, including flow, circulation, water level fluctuations, and sediment transport. Care would be taken to avoid any rutting caused by vehicles or equipment. • Measures would be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering wetland areas. Action would be consistent with state water quality standards and Clean Water Act Section 401 certification requirements. • Appropriate erosion and siltation controls would be maintained during construction. • Fill material would be properly maintained to avoid adverse impacts on aquatic environments or public safety. • All contractors and their employees would be trained regarding safety protocols (fuel handling), and food storage regulations. Storage and handling of food and other attractants would be required to minimize potential conflicts with wildlife. All project crews would be required to meet standards for sanitation, attractant storage, and access. • Construction workers and supervisors would be informed about the potential for special status species in the work area. Contract provisions that require a stop in construction activities if a special status species is discovered until NPS staff members evaluate the situation would be included. Protection measures would be modified as appropriate to protect the birds.
<p>II.</p>	<p><i>Explain the actions to reduce adverse effects to critical habitat listed above (For critical habitat for which impacts were identified, describe any conservation measures (e.g. BMPs) that will be implemented to avoid or minimize the impacts. Conservation measures are designed to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation measures are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinstate this consultation.)</i></p> <p>No critical habitat is present in the action area. Water quality measures listed above will prevent any impacts to nearby critical habitat for piping plover and Gulf sturgeon.</p>

H. Effect Determination Requested

From the sections above, there should be enough detailed information to provide clear and obvious support for your determinations in the section below. If the rationale for the determination is not clear, additional information must be added to one of the sections. Identify if gulf sturgeon are in saltwater, estuarine, or in freshwater in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. gulf sturgeon CH - saltwater). Identify if sea turtles are in water or on land in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. Loggerhead sea turtle CH - terrestrial).

SPECIES and/or CRITICAL HABITAT	DETERMINATION (see definitions below)
See Appendix A for list of potentially affected species/effect determination	Select Most Appropriate
	Select Most Appropriate
	Select Most Appropriate
	Select Most Appropriate
	Select Most Appropriate
	Select Most Appropriate
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	Select Most Appropriate

NE = no effect. This determination is appropriate when the proposed action will not directly, indirectly, or cumulatively impact, either positively or negatively, any listed, proposed, candidate species or designated/proposed critical habitat.

NLAA = not likely to adversely affect. This determination is appropriate when the proposed action is not likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat or there may be beneficial effects to these resources. Response requested is "Concurrence." This conclusion is appropriate when effects to the species or critical habitat will be beneficial, discountable, or insignificant. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact, while discountable effects are those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. If the Services concur in writing with the Action Agency's determination of "is not likely to adversely affect" listed species or critical habitat, the section 7 consultation process is completed.

LAA = likely to adversely affect. This determination is appropriate when the proposed action is likely to adversely impact any listed, proposed, candidate species or designated/proposed critical habitat. Response requested for listed species is "Formal Consultation". Response requested for proposed and candidate species is "Conference." This conclusion is reached if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable or insignificant. In the event the overall effect of the proposed action is beneficial to the listed species or critical habitat, but may also cause some adverse effect on individuals of the listed species or segments of the critical habitat, then the determination should be "is likely to adversely affect." Such a determination requires formal section 7 consultation and will require additional information.

JP = likely to jeopardize proposed species/adversely modify proposed critical habitat. For proposed species and proposed critical habitats, the Service is required to evaluate whether the proposed action is likely to jeopardize the continued existence of the proposed species or adversely modify an area proposed for designation as critical habitat. If you reach this conclusion, a section 7 conference is required.

JC = likely to jeopardize candidate species. For candidate species, the Service is required to evaluate whether the proposed action is likely to jeopardize the continued existence of the candidate species. If this conclusion is reached, intra-Service section 7 conference is required.

I. Bald Eagles

Are bald eagles present in the action area? ☐ NO ☒ YES

If YES, the following conservation measures should be implemented:

1. If bald eagle breeding or nesting behaviors are observed or a nest is discovered or known, all activities (e.g., walking, camping, clean-up, use of a UTV, ATV, or boat) should avoid the nest by a minimum of 660 feet. If the nest is protected by a vegetated buffer where there is *no* line of sight to the nest, then the minimum avoidance distance is 330 feet. This avoidance distance shall be maintained from the onset of breeding/courtship behaviors until any eggs have hatched and eaglets have fledged (approximately 6 months).
2. If a similar activity (e.g., driving on a roadway) is closer than 660 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
3. If a vegetated buffer is present and there is no line of sight to the nest and a similar activity is closer than 330 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
4. In some instances activities conducted within 660 feet of a nest may result in disturbance, particularly for the eagles occupying the Mississippi barrier islands. If an activity appears to cause initial disturbance, the activity shall stop and all individuals and equipment will be moved away until the eagles are no longer displaying disturbance behaviors.

If these measures cannot be implemented, then you must contact the Service's Migratory Bird Permit Office.

Texas – (505) 248-7882 or by email: permitsR2MB@fws.gov

Louisiana, Mississippi, Alabama, Florida – (404) 679-7070 or by email: permitsR4MB@fws.gov

J. Migratory Birds

Identify the species anticipated in the project area and behaviors (breeding, roosting, foraging) anticipated during project implementation. You may list similar species on a single line and categorize by type (e.g., Wading birds - great blue heron, snowy egret, reddish egret). Use additional tables on the next page if needed.

SPECIES/SPECIES GROUP	BEHAVIOR	SPECIES/HABITAT IMPACTS
raptors - osprey, hawks, American Kestrel, Bald Eagle, kites	Foraging, feeding, resting, roosting, nesting	<p>Raptors forage, feed, and rest in the action area. As such, they may be impacted locally and temporarily by the project. It is expected that they would be able to move to another nearby location to continue foraging, feeding and resting. Most raptors are aerial foragers and soar long distances in search of food.</p> <p>The national seashore prohibits all activity in and around known nesting migratory birds, including osprey and bald eagle. In addition, construction would occur along existing roads and nesting activity would be minimal in this area. Therefore, no take of raptors is anticipated.</p> <p>There is sufficient suitable feeding and resting habitat available in the Davis Bayou Area surrounding the project area to support additional bird use. In addition.</p>

If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

SPECIES/SPECIES GROUP	CONSERVATION MEASURES TO MINIMIZE IMPACTS
raptors - osprey, hawks, American Kestrel, Bald Eagle, kites	<p>USFWS Bald Eagle Management Guidelines and Conservation Measures would be followed during implementation of the proposed action.</p> <p>No work would occur within 660 feet of any bald eagle or osprey nests. Care would be taken to avoid working near other raptor nests, and to minimize noise and vibration in their vicinities. Roosting should not be impacted because the project would occur during daylight hours only, and because the areas where these birds nest are not within the project area. A staff biologist would advise the contractor of the nesting status of all identified raptor nests near the project area and approve of work in the vicinity.</p>

Migratory Birds

Continuation page if needed.

II.

SPECIES/SPECIES GROUP	BEHAVIOR	SPECIES/HABITAT IMPACTS
seabirds and shorebirds - plovers, black skimmer, sandpipers, gull-billed tern, least tern	Foraging, feeding, resting, roosting	Shorebirds could occasionally forage, feed, rest, and roost in the project area. As such, they may be impacted locally and temporarily by the project. It is expected that they would be able to move to another nearby location to continue foraging, feeding and resting. These birds primarily nest and roost in the dunes and the project area does not include dune habitat. Therefore, no take of shorebirds is anticipated.

If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

SPECIES/SPECIES GROUP	CONSERVATION MEASURES TO MINIMIZE IMPACTS
seabirds and shorebirds - plovers, black skimmer, sandpipers, gull-billed tern, least tern	Care would be taken to minimize noise and vibration near areas where foraging or resting birds were encountered. All disturbance would be localized and temporary. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity. The project would not affect roosting because the project would occur during daylight hours only. Nesting would not be affected because the project would not occur in seabird nesting habitat.

III.

SPECIES/SPECIES GROUP	BEHAVIOR	SPECIES/HABITAT IMPACTS
Wading birds - herons, egrets, American oystercatcher, American bittern, least bittern, lesser yellowlegs, long-billed curlew, yellow rail	Foraging, feeding, resting, roosting, nesting	Wading birds primarily forage and feed at the water's edge. Noise and disturbance may cause birds to avoid the action area during construction. They would be expected to move to another nearby location to continue foraging, feeding and resting. These birds primarily nest and roost in isolated trees or shrubs (e.g., pines, Bacchurus and mangroves), which occur outside the action area, so no impacts to nesting and roosting are anticipated. In addition, this project would only take place along an existing road. For these reasons, no take of wading birds is anticipated.

If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

SPECIES/SPECIES GROUP	CONSERVATION MEASURES TO MINIMIZE IMPACTS
Wading birds - herons, egrets, American oystercatcher, American bittern, least bittern, lesser yellowlegs, long-billed curlew, yellow rail	Tree removal would be timed to occur outside of nesting seasons. Care would be taken to minimize noise and vibration near areas where foraging or resting birds are encountered. All disturbance would be localized and temporary. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity. Roosting would not be affected because the project would occur during daylight hours only. This project would only take place along an existing road. For these reasons, no take of wading birds is anticipated.

Migratory Birds

Continuation page if needed.

IV.

SPECIES/SPECIES GROUP	BEHAVIOR	SPECIES/HABITAT IMPACTS
Waterfowl (geese, swans, ducks, loons, and grebes)	Foraging, feeding, resting, roosting, nesting	Waterfowl forage, feed, rest, nest, and roost in the action area. It is believed that waterfowl would avoid the action area during construction, and would be able to move to another nearby location to continue foraging, feeding and resting. These birds primarily roost and nest in isolated low vegetation. This project would only take place along an existing road. For these reasons, no take of waterfowl is anticipated.

If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

SPECIES/SPECIES GROUP	CONSERVATION MEASURES TO MINIMIZE IMPACTS
Waterfowl (geese, swans, ducks, loons, and grebes)	Care would be taken to minimize noise and vibration near areas where foraging or resting birds were encountered. All disturbance would be localized and temporary. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity. Roosting is not likely to be impacted because the project would occur during daylight hours only. This project would only take place along an existing road. For these reasons, no take of waterfowl is anticipated.

V. February 2014

SPECIES/SPECIES GROUP	BEHAVIOR	SPECIES/HABITAT IMPACTS
Songbirds - warblers, sparrows, wrens, blackbirds, thrush, woodpeckers, doves	Foraging, feeding, resting, roosting, nesting	Migratory songbirds forage, feed, rest, nest, and roost in the action area. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity. Songbirds would be able to avoid the construction area and move to another nearby location to continue foraging, feeding and resting. The project would likely occur outside of nesting season. If work must be done when songbirds are nesting, nest surveys will be completed and any nesting birds will be avoided until egg/chicks have fledged. For these reasons, no take of songbirds or their nests is anticipated.

If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

SPECIES/SPECIES GROUP	CONSERVATION MEASURES TO MINIMIZE IMPACTS
Songbirds - warblers, sparrows, wrens, blackbirds, thrush, woodpeckers, doves	Tree removal would be timed to occur outside of songbird nesting seasons. Care would be taken to minimize noise and vibration near areas where foraging or resting birds are encountered. All disturbance would be localized and temporary. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity. Roosting would not be affected because the project would occur during daylight hours only. Although this project would only take place along an existing road and some songbird species are known to nest along roads, the project would likely not occur during songbird nesting season. If work must be done when songbirds are nesting, nest surveys will be completed and any nesting birds will be avoided until egg/chicks have fledged. For these reasons, this project would not affect songbird nesting.

Pre-existing NEPA Documents

Yes



No



Does this project have any pre-existing, site specific NEPA analysis? If YES, then provide final NEPA analysis, if not final then provide draft. If tiered from a programmatic EIS or EA, then provide the programmatic document or a link below.

Tiered from the Phase III ERP/PEIS - <http://www.doi.gov/deepwaterhorizon/adminrecord/phase-iii-early-restoration.cfm>

NMFS ESA §7 Consultation

We request that all ESA §7 consultation requests/packages be submitted electronically to:

Laurel.Jennings@noaa.gov. Questions about consultation status may be directed to the same email address or by phone, 206-526-4601 or 206-794-4761 (cell).

FWS ESA § 7 Consultation

We request that all consultation requests/packages to FWS be submitted electronically to:

Ashley_Buchanan@fws.gov. You will be notified when we receive your Biological Evaluation. Upon receipt, we will conduct a preliminary review and provide any comments and feedback, including any requests for modifications or additional information. If modifications or additional information is necessary, we will work with you until the Biological Evaluation form is considered complete. Once complete, we will send your Biological Evaluation to the appropriate Field Office to conduct consultation. If you have questions about consultation status, please contact Ashley Mills by phone 812-756-2712 or email Ashley_Buchanan@fws.gov.

Name of Person Completing this Form:

Jolene Williams

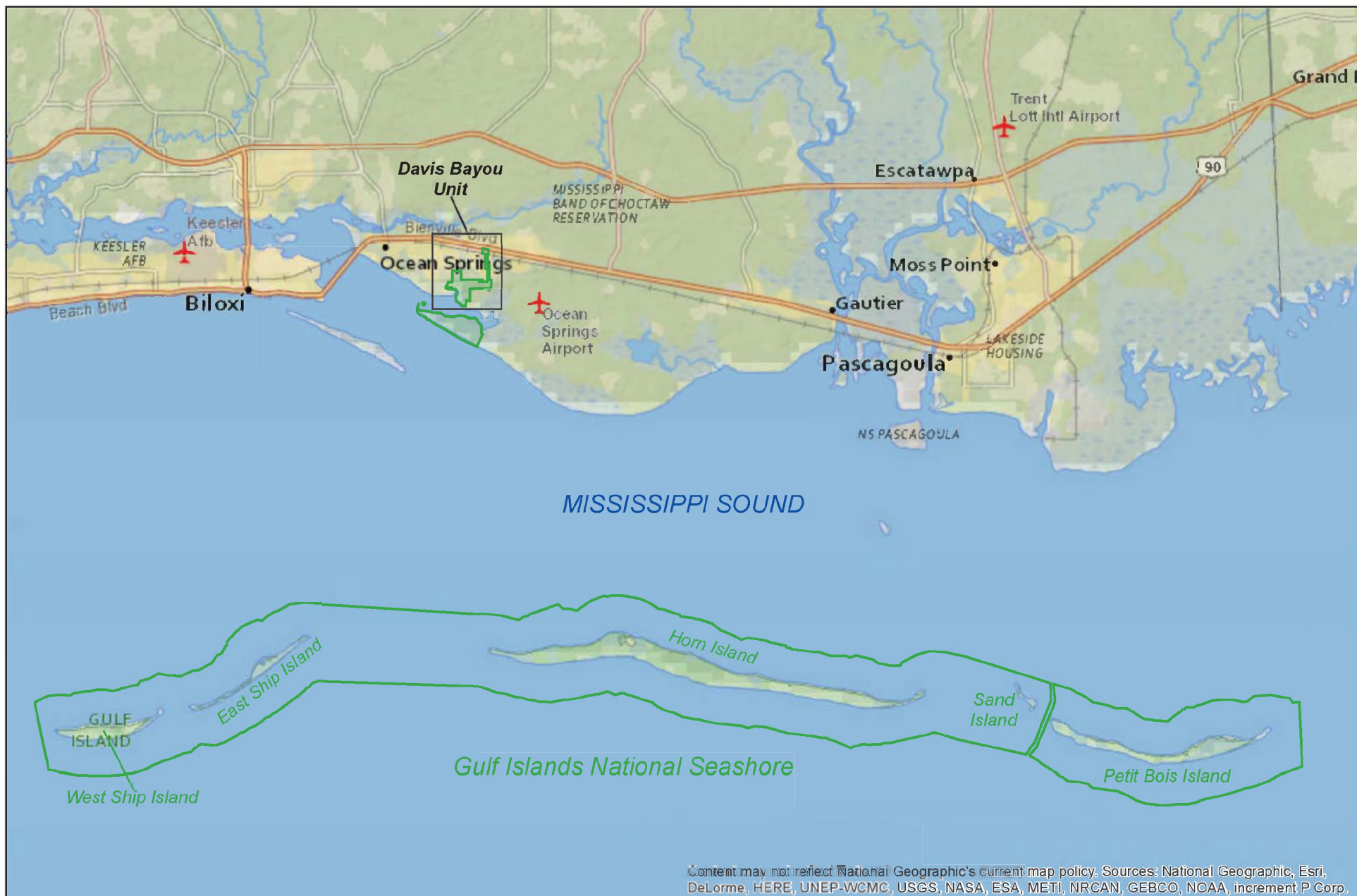
Name of Project Lead:

Date Form Completed:

04/15/2015

Appendix A

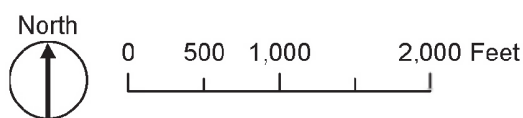
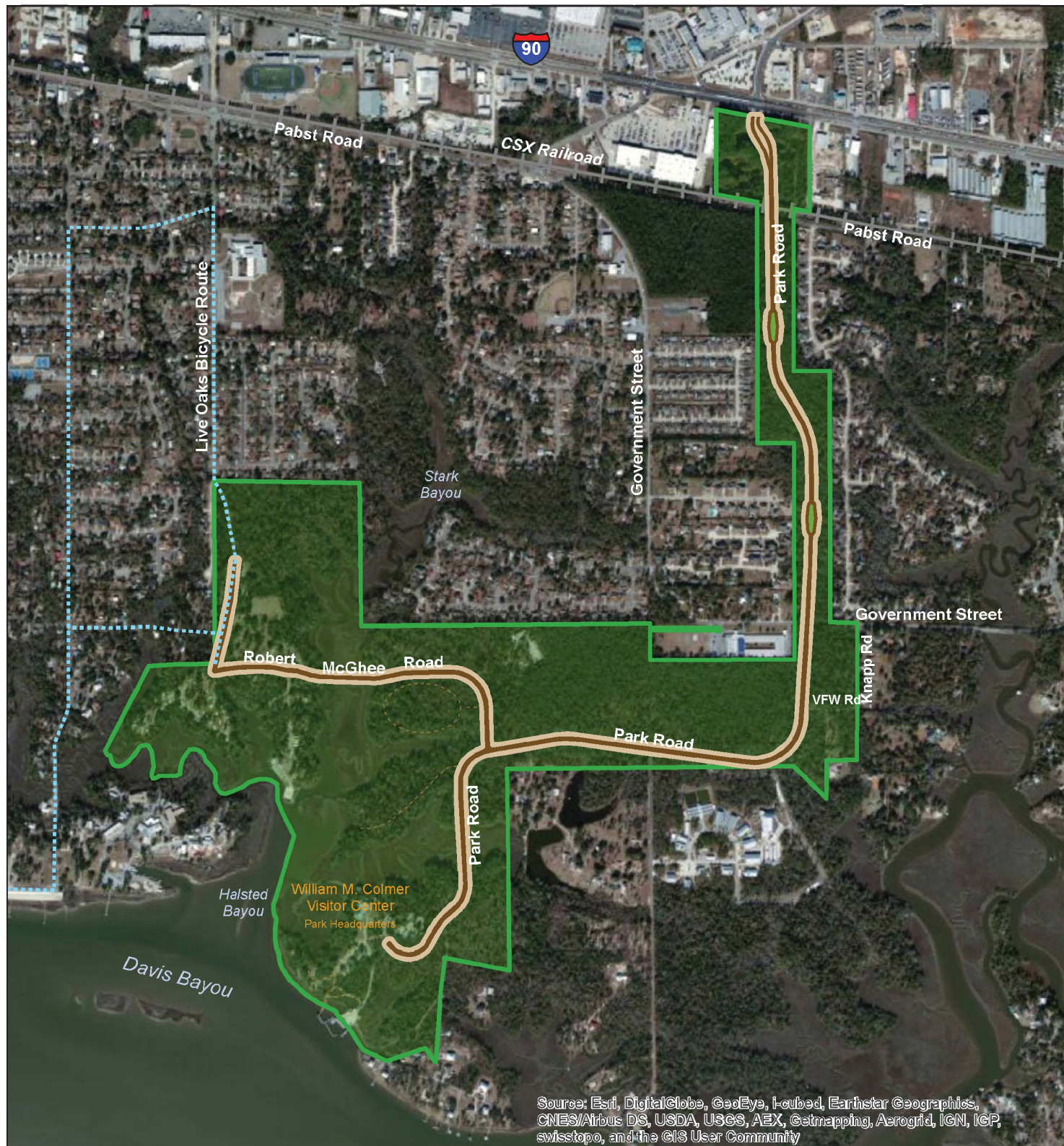
Determination to Threatened and Endangered Species potentially found ¹ at the Davis Bayou Unit of Gulf Islands National Seashore			
Scientific Name	Common Name	Federal Status	Determination
Mammals			
<i>Trichechus manatus latirostris</i>	West Indian Manatee	E	No effect
<i>Ursus americanus luteolus</i>	Louisiana Black Bear	T	No effect
Birds			
<i>Calidris canutus rufa</i>	Red Knot	T	No effect
<i>Charadrius melodus</i>	Piping Plover	T/CH	No effect; no adverse modification or destruction of critical wintering habitat (Mississippi Unit 11)
<i>Grus canadensis pulla</i>	Mississippi Sandhill Crane	E	No effect
<i>Picoides borealis</i>	Red-Cockaded Woodpecker	E	No effect
Amphibians			
<i>Rana capito sevosa</i>	Dusky Gopher Frog	E	No effect
Reptiles			
<i>Chelonia mydas</i>	Green Sea Turtle	T	No effect
<i>Dermochelys coriacea</i>	Leatherback Turtle	E	No effect
<i>Gopherus polyphemus</i>	Gopher Tortoise	T	No effect
<i>Graptemys flavimaculata</i>	Yellow-blotched Map Turtle	T	No effect
<i>Lepidochelys kempii</i>	Kemp's Ridley Sea Turtle	E	No effect
<i>Pituophis melanoleucus lodingi</i>	Black Pine Snake	PT	No effect
<i>Pseudemys alabamensis</i>	Alabama Red-belly Turtle	E	No effect
Fish			
<i>Acipenser oxyrhynchus desotoi</i>	Gulf Sturgeon	T/CH	No effect; no adverse modification or destruction of critical habitat (Unit 8 Mississippi Sound)
<i>Percina aurora</i>	Pearl Darter	C	No effect
Plants			
<i>Isoetes louisianensis</i>	Louisiana Quillwort	E	No effect
C = Candidate, PT = Proposed Threatened, E = Endangered, T = Threatened, CH = Critical Habitat			
¹ This list of species is the Trust Resources List automatically generated by the U.S. Fish and Wildlife Service online Information, Planning, and Conservation (IPaC) System. These are species that could potentially occur in the action area based on general geographic area and should be considered in the effects analysis if specific habitat exists.			



Legend

Gulf Island National Seashore Boundary - Mississippi District

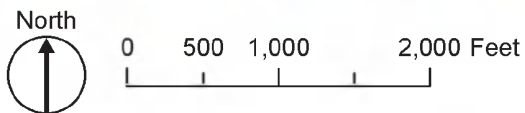
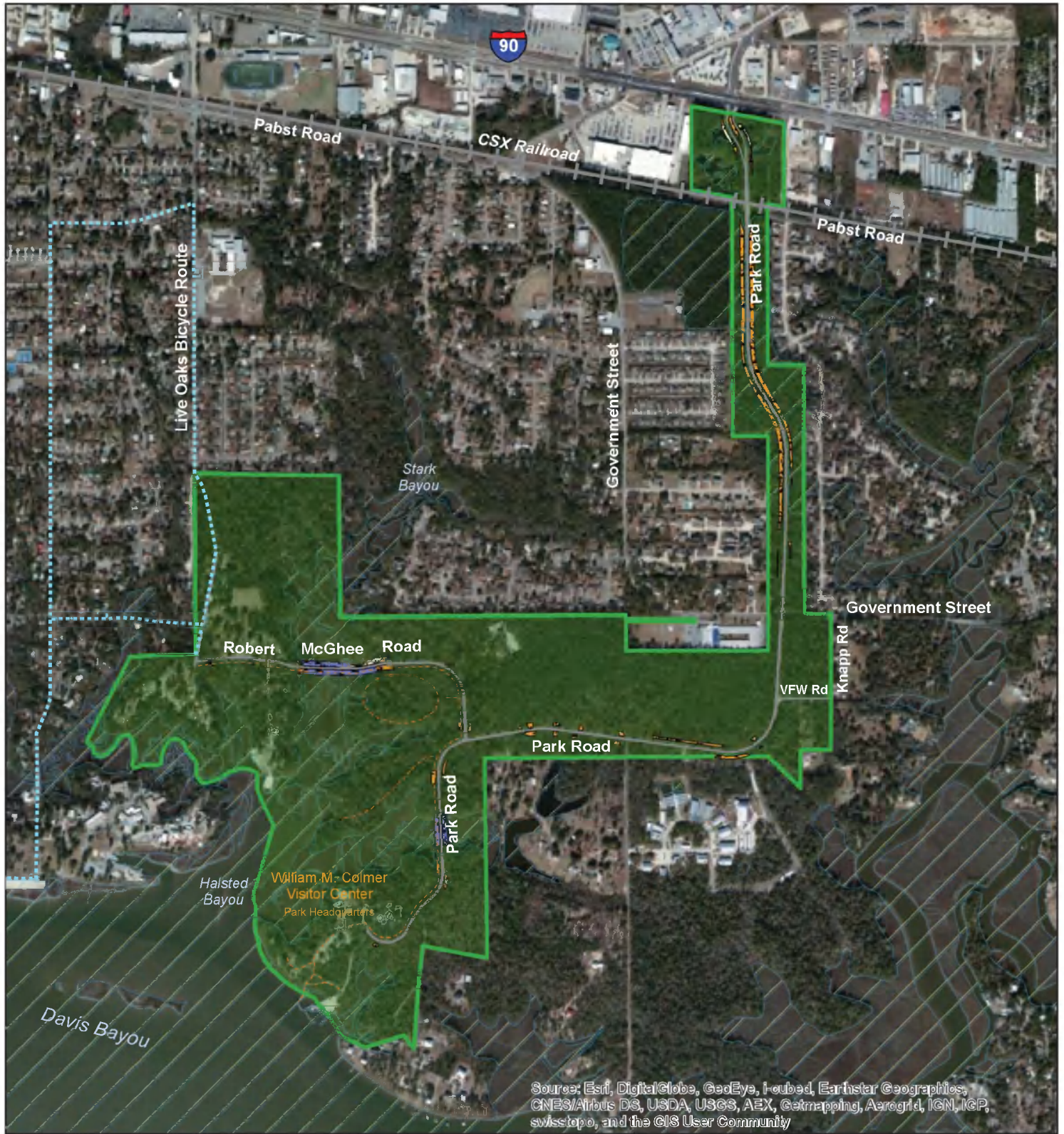
Figure 1: Site Layout Map
Gulf Islands National Seashore
 U.S. Department of Interior/ National Park Service



Legend

- | | |
|------------------------|------------------------|
| Median | Project Area Boundary |
| Existing Road Area | Trail |
| Proposed Road Widening | Live Oak Bicycle Route |
| Construction Zone | Railroad |

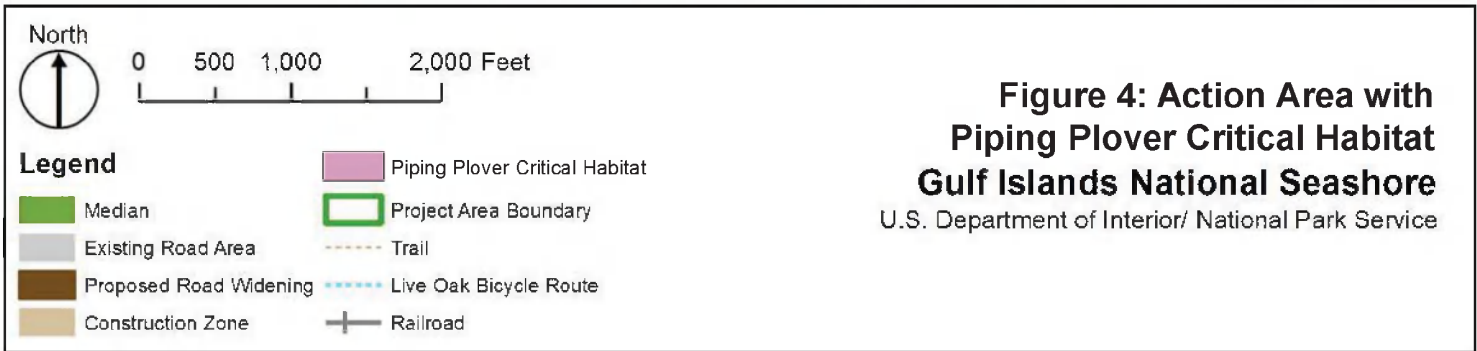
Figure 2: Action Area
Gulf Islands National Seashore
 U.S. Department of Interior/ National Park Service

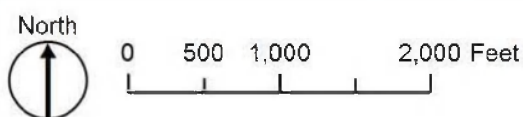
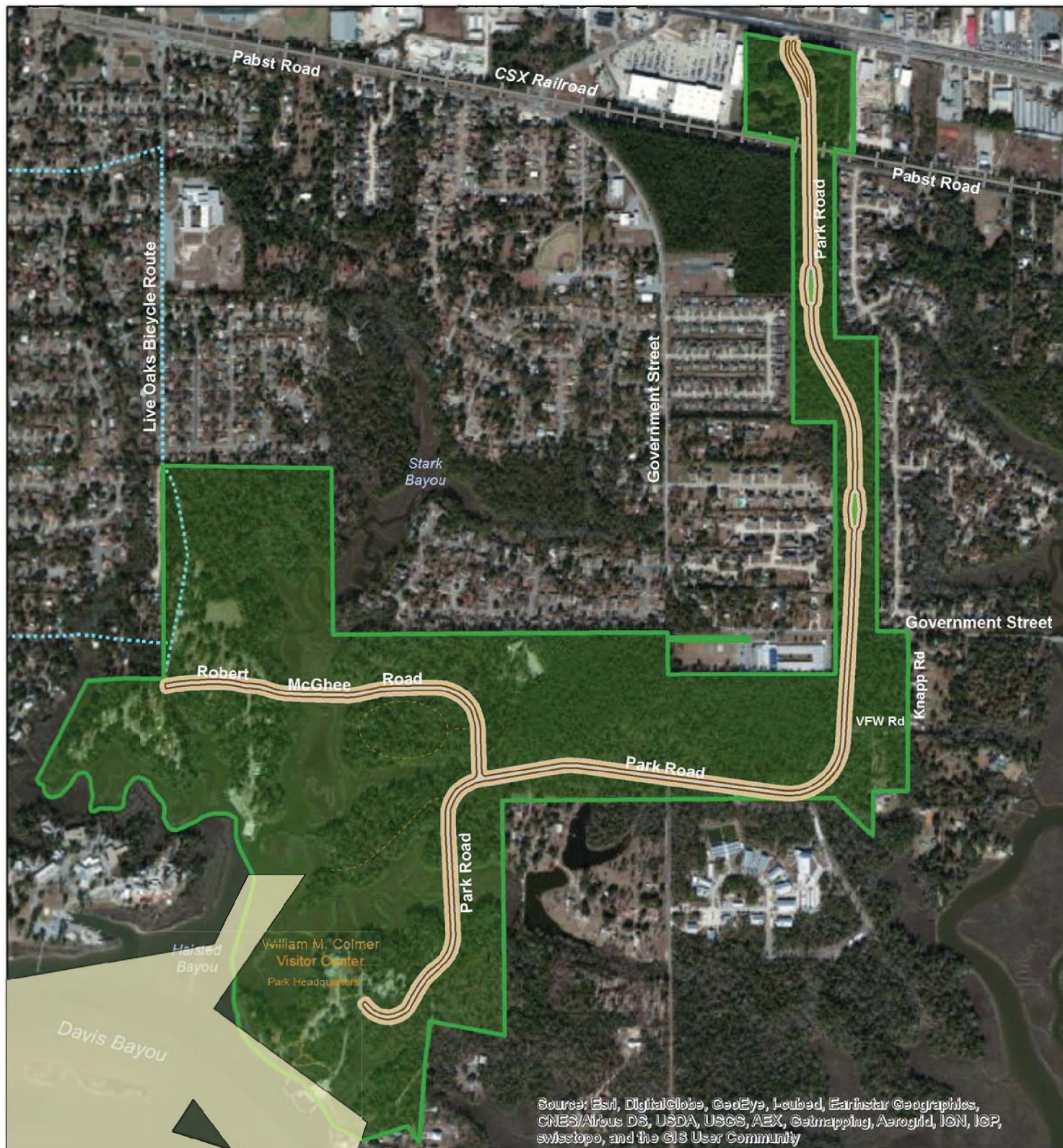


Legend

- | | |
|------------------------|------------------------|
| Estuarine Emergent | Project Area Boundary |
| Palustrine Emergent | Road |
| Palustrine Forested | Trail |
| Palustrine Scrub-Shrub | Live Oak Bicycle Route |
| NMI Wetlands | Railroad |

**Figure 3: Action Area Wetlands
within the 122-ft Study Corridor
Gulf Islands National Seashore**
U.S. Department of Interior/ National Park Service





Legend

	Median		Gulf Sturgeon Critical Habitat
	Existing Road Area		Project Area Boundary
	Proposed Road Widening		Trail
	Construction Zone		Live Oak Bicycle Route
			Railroad

Figure 5: Action Area with Gulf Sturgeon Critical Habitat
Gulf Islands National Seashore
 U.S. Department of Interior/ National Park Service

Locations of Boardwalks at Davis Bayou Unit, Gulf Islands National Seashore.



National Park Service
U.S. Department of the Interior
Gulf Islands National Seashore
Florida & Mississippi

Closeup of Stark Bayou Boardwalk Location, Davis Bayou
Unit, Gulf Islands National Seashore



Closeup of Boardwalk location at East Stark Bayou, Davis
Bayou Unit, Gulf Islands National Seashore



147 ft

© 2015 Google

Google earth

Imagery Date: 1/26/2015 30°23'37.33" N 88°47'16.79" W elev 2 ft eye alt 635 ft

